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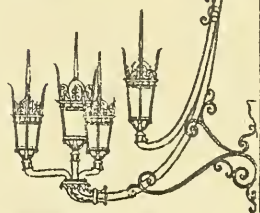
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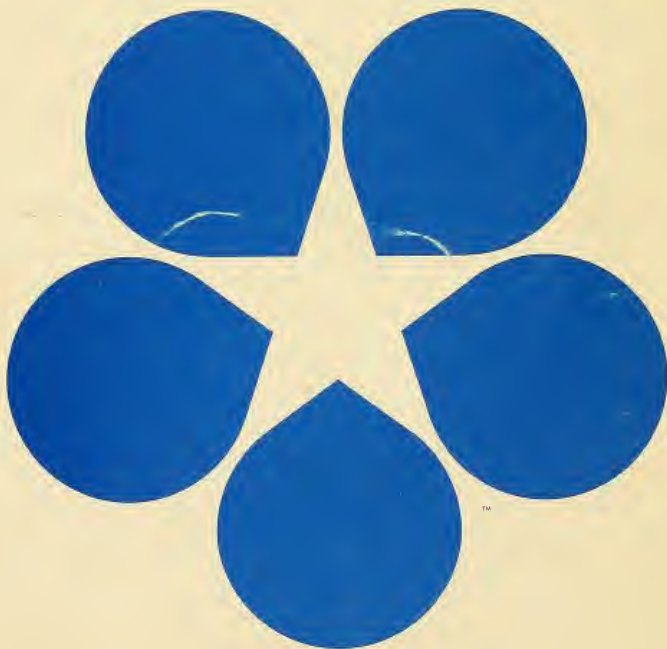
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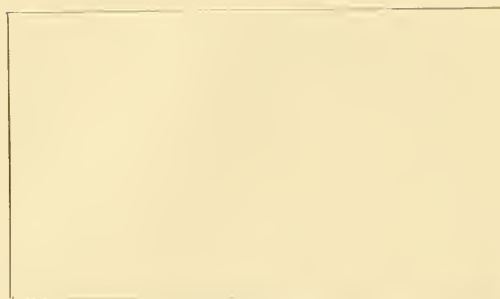
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# Boston 200™

A SPECIAL REPORT  
ON  
VISITOR PROJECTIONS

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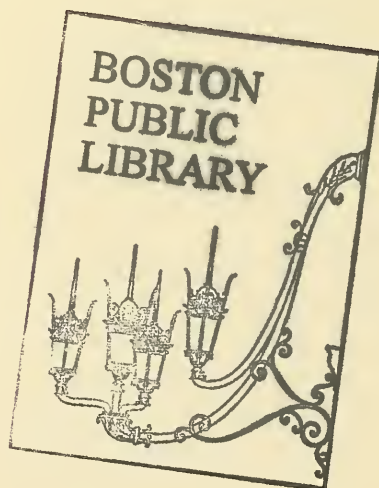
A SPECIAL REPORT  
ON  
VISITOR PROJECTIONS

ANALYSIS OF THE IMPACT OF THE UNITED STATES  
BICENTENNIAL ON THE CITY OF BOSTON

Prepared for Boston 200 by the Boston  
Redevelopment Authority Research Staff

September, 1973

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financed in part through a Comprehensive  
Planning Grant from the Department of  
Housing and Urban Development.





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## INTRODUCTION

This special report seeks to provide interested parties with a comprehensive and detailed view of visitor impact in Boston during the Bicentennial years.

Included are projections of numbers of persons, their state of origin, distribution by month, average daily estimates, and commercial accommodation requirements.

The Chart on page 12 shows what Boston visitor growth might be without Bicentennial impact as opposed to what it is expected to be with the Bicentennial. This chart is of prime importance to this report. It is this projected increase that Boston 200 must deal with, but equally as important, the increased visitor impact represents a potential for long lasting and far-reaching economic and cultural benefits that can accrue to the City and the region.



## PART I

### Methodology and Explanatory Text



## A. Methodology

The first step in ascertaining the impact of the National Bicentennial on the City of Boston is to determine the number of visitors that can be expected to attend the special events and visit the numerous historical sites in the Boston area during its Bicentennial Period: 1975-1977.

Several efforts have been made in the past to estimate visitor volume for the Bicentennial, and the estimates range from a low of 1.5 million to a high of 20 million. Unfortunately, the range of these estimates is so large and the meaning associated with these visitor volumes is so ambiguous, that the numbers are virtually useless for planning purposes.

The purpose of this section of the impact analysis is to develop a methodology and a set of reasonable and meaningful estimates of visitor volume that can be used with relative confidence in planning for the Bicentennial and in determining transportation, lodging and economic impact on the City of Boston.

In our efforts to develop visitor estimates, numerous publications dealing with tourism, World Expositions and the Bicentennial itself were carefully reviewed. (See Bibliography for detailed list of publications.)

From the literature it was apparent that there were basically five quantifiable factors which had to be considered in making any visitor projections:

1. Projected 1975 population by state;
2. Projected 1975 per capita income;
3. Educational level of the state population;
4. Propensity of the population to travel;
5. Distance that each population was from Boston.

In addition, one other important factor, which was not quantifiable, had to be considered: that was the attractive force of the Bicentennial itself --



the awareness, interest and willingness to participate in Bicentennial activities on the part of the general public.

Obviously, one of the basic problems with estimating visitor volume for the Bicentennial is the uniqueness of the affair. Unlike estimating visitor volumes for a World Exposition, there is no real precedent on which to base visitor projection and impact for a citywide celebration effort such as Boston 200.

Assuming that Boston will have a well publicized and ambitious program to celebrate the Nation's 200th year, together with the concentration of historical attractions of national significance in the Boston area, it is likely that Boston will become one of the major focal points in the nation during the Bicentennial. In this respect, it is assumed that the Bicentennial for Boston would have a similar attractive force as a World Exposition, but at a somewhat lower magnitude.

Because of the difficulty in precisely quantifying the magnitude of the attractive force of the Bicentennial, we developed three different weighted measures for our equation; each reflecting a different degree of appeal of the Bicentennial. However, for the five quantifiable factors, we were able to develop, using regression analysis, a definitive measure of the impact or relationship of each variable in generating tourist volume.

Utilizing the measures for each of the five quantifiable variables along with the three different weighted coefficients for measuring attractive force, we developed three basic equations and applied them to each of the states. The result was a low, medium and high estimate of visitor volume that could be expected from each state in 1975. (See Table I.)



It was apparent that we could not use the same procedure for estimating visitor attendance for Massachusetts residents because of their close proximity and familiarity with the area and especially for Boston residents who live within the "Celebration Area". In estimating day tripper visitor attendance for Massachusetts residents, we assumed three different levels of participation (related to Attractive Force concept) for the 1975 Massachusetts population, and assumed an average frequency of approximately 2.1 visits per participating resident. (The Massachusetts visitor attendance figure does not include the City of Boston residents.)`

We based our estimates for foreign visitors (excluding Canadians) on: current levels of foreign visitors to the area, normal growth, the attraction of the 1976 Olympics in Montreal and a modest appeal of Bicentennial activities.

In estimating the visitor volume for 1976 and 1977, we used the same procedures as above, but used different weights for the Attractive Force of the Bicentennial. It was assumed that the five quantifiable variables would remain the same in 1976 and 1977, while the "Attractive Force" of the Bicentennial would peak in 1976 and go back to its approximate 1975 level for 1977. (See Table II.)

In reviewing Tables I and II, it is important to understand precisely what is meant by visitor volume or visitor attendance. The visitor volume (attendance) figures by state include visitors who will make more than one visit to Boston in the course of the year. In the case of a state like Rhode Island, which is in close proximity to Boston, we can assume that the average visitor will make 1.4 visits to Boston during the year. Thus, the 98,500 medium visitors volume figure for Rhode Island in 1975, actually represents approximately 65,000 "different" visitors.



Likewise for Massachusetts residents, it was assumed that the participating residents will make approximately 2.1 visits into Boston; hence the 3.0 million Massachusetts visitor attendance represents less than 1.5 million different visitors.

For purposes of most impact planning, the important figure is the visitor volume or attendance figure, and not the number of different visitors. The latter would be of value to a special marketing effort.

With this understanding of the basic methodology and terminology, we can now review the tables for details of the analysis.



## B. Explanatory Tabular Text

Table I

The primary function of Table I is to describe the variables that were considered in computing visitor attendance. The table displays the 5 quantifiable variables used in the computations and the resulting projections for "pleasure visitor" volume in 1975. We did not include the sixth variable - (Attractive Force) - in this table because, as mentioned above, this factor was not a measureable quantity. However, it was applied directly in the equations as a varying weighted coefficient.

Table II

Table II shows the projected low, medium, and high visitor volumes for 1975, 1976 and 1977. To assist in computing the economic impact on the region and state, we divided the visitor attendance into two basic categories: 1) Out-of-State Visitors (which includes Canadians and foreign visitors) and 2) Massachusetts Resident Visitors.

The out-of-state visitors were broken down into "Pleasure Visitors", who come to Boston primarily for recreational purposes; and visitors who come to Boston for business or personal reasons. Unlike the pleasure visitor volume, it is assumed that the number of business and personal visitors will not be significantly affected by the Bicentennial.

However, it is important in planning for the Bicentennial to consider the number of "non-pleasure visitors" who will be coming to Boston during the period. Unfortunately, a lack of data prevented us from computing the number of business/personal visitors from the state of Massachusetts.

According to Table II, the total visitor attendance could vary from a low of 4.8 million in 1975 to a high of 11.9 million in 1976. The basic difference in the two extremes reflects the difference in the set of assumptions used in



developing the weighted coefficient. The low estimate assumes a relatively modest "appeal" of the Bicentennial on the part of the American public in 1975, and a low-keyed, low-profile program for Boston 200. The high estimate reflects a strong interest in Bicentennial activities in 1976, and a well developed and highly publicized (nationally) Bicentennial program. In addition, for all projections it is assumed that there will be adequate living and transportation systems and services will be able to handle traffic flows without heavy congestions.

Whichever set of assumptions are applicable, it is apparent that the Bicentennial will have a significant impact on visitor volumes for the City. Even the lowest projected visitor attendance (4.8 million) represents a 70% increase over 1970 visitor volume; while the highest projection (11.9 million) would mean a 30% increase in the number of visitors to Boston (see Tables II and V).

One of the first efforts of planning for the Bicentennial should be to determine the impact of this increased visitor volume on specific city services and facilities. Boston 200 staff should determine precisely what additional demands will be placed on city services and facilities during the Bicentennial and to what extent the particular facility or service can handle the increased burdens.

To assist the Boston 200 planning staff in this "impact versus capacity" analysis, we have expanded the analysis on our visitor projections and developed additional tables that should provide some of the necessary background data.

One of the first considerations in determining the impact on city facilities is to know how the projected visitor volumes will be distributed - when will the visitors be coming to Boston?



### Table III and III-A

Tables III and III-A show the distribution by month of the year of the projected medium and high visitor volumes for 1975 and 1976.

Because of differences in travel patterns, we had to develop different distribution profiles for out-of-state pleasure visitors, business and personal visitors, and Massachusetts resident visitors. The distribution of out-of-state pleasure visitors and business and personal visitors were derived from the Kasterlak Report and the Northeastern study. These reports based their distribution on monthly tax receipts from hotels and motels. For Massachusetts residents, we could use the same data, but we did assume that the distribution would follow a similar pattern except for the peak summer months. Given the greater flexibility for visiting Boston, it is likely that during the Bicentennial period Massachusetts residents would prefer not to visit the city during the peak tourist months of July and August.

In addition, it was assumed that special efforts would be made by the Boston 200 planners to encourage visitors to come to Boston during the off-peak periods in an attempt to redistribute the peak visitor loads over a broader time span. Massachusetts residents, with their greater flexibility, would be the Bicentennial visitors most likely to be influenced by this redistribution effort.

If our assumptions about travel patterns are correct, and the Boston 200 effort effective, the overall result would be a more even distribution of visitors with the peak volumes being distributed over a five month period - from June through October - (see Chart I).

The distribution Tables (III and III-A) indicate that at the height of the Bicentennial (the summer of 1976), we can expect approximately 40,000 visitors per day if we use medium visitor projections; and nearly 50,000 visitors per day with the high projected volume. These are averages. Design day attendances (special celebration days such as April 19 or July 4) could be about 1.5 more or 60-75,000 maximum.



Table III-B and III-C

For comparison purposes, we have included Tables III-B and III-C. Table III-B shows the distribution of visitors in 1970, and according to the table, the peak month is August with 421,500 visitors, or an average of 14,000 visitors per day. In Table III-C, we have distributed a projected "normal" visitor volume for 1975. Normal visitor volume is a projection of visitors in 1975, assuming a "normal growth pattern" without the effect of the Bicentennial (see Table V). Again, the peak month is August, with an average of slightly over 15,500 visitors per day.

When we compare the peak daily visitor volume for 1970 and "normal" 1975 with our peak Bicentennial projections of 40,000 to 50,000 per average day, we can better comprehend the impact of the Bicentennial. As indicated by the tables, daily visitor volumes to Boston, during the Bicentennial could increase by approximately three times the present or normal peak levels.

Chart I exemplifies this increased magnitude of visitor volumes to the city, and compares it to what it would be with the Bicentennial.

Table IV, IV-A and IV-B

The projected visitor volumes and the distribution of visitors over the course of the year will provide basic background data for an overall impact analysis, but we must refine the data further, if we are to determine more precisely the impact of specific facilities. For this purpose Tables IV-A and IV-B have broken down visitor volume figures into "visiting units".

The visiting unit is an approximation of the number of visiting groups or parties represented by our visiting volume figures. We have assumed that the average size party for the pleasure visitors who will be coming to Boston



during the Bicentennial would be about 3.2 visitors per party. For the business and personal visitors we assumed that the size of the party would be 1.25 visitors per party or unit.

Using the concept of "visiting unit", we can better determine the direct impact on commercial lodging facilities. We have assumed that each visiting unit will occupy one commercial accommodation unit and Tables IV, IV-A and IV-B estimate the commercial accommodations that will be needed to handle this impact during the 100 day peak period.

According to Table IV-B, assuming an average stay of two nights per visit, it would require between 10-12,000 accommodation units each night to handle visitors during the 100 day peak period.\* If we assume that the average party or "visiting unit" will stay 3 nights, it would require nearly 18,000 accommodation units each night to handle the tourist in the peak period.

This is an extremely significant point. Presently Boston is a "two day visit". If the policy makers decide that the Bicentennial visit to Boston will be such that visitors will program an extra day to "see it all" then, clearly, accommodations in addition to present commercial lodgings must be programmed.

#### Table V

Table V summarizes the direct impact of the Bicentennial on visitor volumes. We have estimated total visitors to Boston in 1970; and using the growth in visitors to Boston in the last several years, we have projected what the 1975 visitor volume would be under normal conditions without a Bicentennial.

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\* Although the 12,000 seems to be within the limits of available commercial facilities in the Greater Boston area, the availability of these units must be examined. Many of these are not available for tourist purposes because they are taken by airlines, businesses, etc.



Comparing the 1975 "normal" estimates of visitor volume with the projected 1975 medium "Bicentennial volume", we see that the Bicentennial will increase visitor volume to the Boston area nearly 100%. Under normal conditions, visitor volume in Boston would have increased from 2.9 million in 1970 to 3.2 million in 1975. However, as result where Bicentennial, visitor volume is projected to increase to 6.4 million by 1975.

Although it is difficult to determine the effect the Bicentennial will have on visitor volumes in the Port-Bicentennial Period, based on studies done for the Montreal Expo we have estimated that there will be at least a 25% increase over and above any "normal increase" in visitor volume in 1978, and that this increase can be directly attributed to Bicentennial exposure and the forward thrust of Boston 200.

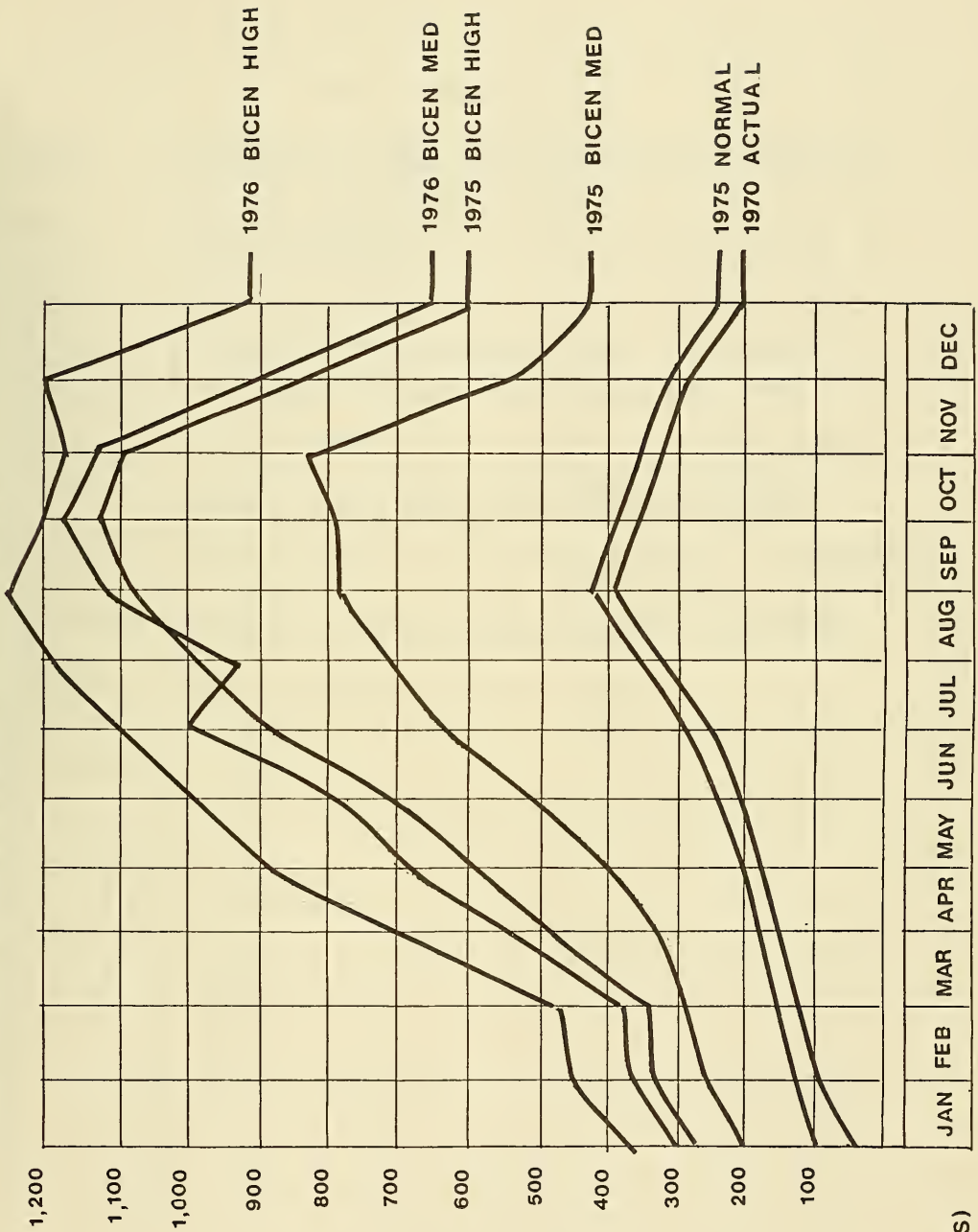


## PART II

### Tables



# TOTAL VISITOR ATTENDANCE BY MONTH



(THOUSANDS)



## PART II - TABLES AND CHART

Table I	Variables Used to Determine Out-of-State Visitor Attendance to Boston During the Bicentennial - 1975
Table II	Projected Visitor Attendance to Boston During Bicentennial Period (in millions)
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TABLE 1

VARIABLES USED TO DETERMINE OUT-OF-STATE PLEASURE VISITOR ATTENDANCE TO BOSTON DURING THE BICENTENNIAL - 1975

State of Origin:	1975 Projected Population (000's)	Projected Per Capita Income-1975 (1968 \$)	Educational Index	Propensity Travel (% mobility)	Distance from Boston (miles)	Projected Pleasure Visitor Attendance in 1975		
						Low	Medium	High
Ala	3633	\$3119	86	10.6	1185	7782	10,000	15,082
Alaska	345	4856	105	10.0	5085	329	450	637
Ariz.	2027	3865	106	15.4	2685	3379	4,750	6,550
Arik.	1979	3102	84	11.2	1495	3288	4,600	6,373
Calif.	21660	4886	114	15.8	3025	44497	62,400	86,242
Colo.	2462	4076	114	12.4	1990	5242	7,350	10,161
Conn.	3271	5291	108	13.6	150	158170	221,000	306,555
Del.	602	4313	105	13.0	335	12732	17,850	24,676
D.C.	785	5541	110	12.1	440	13188	18,500	25,561
Fla.	7853	3955	103	17.5	1545	24422	34,250	47,334
Georgia	4900	3662	85	11.3	1070	12914	18,100	25,030
Hawaii	847	4614	113	10.7	5750	493	700	956
Idaho	747	3533	110	10.6	2705	785	1,100	1,522
Ill.	11673	4955	101	11.2	975	56973	79,900	110,422
Ind.	5501	4300	102	10.7	945	21043	29,500	40,784
Iowa	2890	4153	104	9.2	1315	6448	9,050	12,497
Kansas	2360	4257	104	10.0	1475	5535	7,750	10,727
Ky.	3344	3399	82	9.6	1000	8275	11,600	16,038
La.	3370	3361	83	10.9	1540	6631	9,300	12,651
Maine	1020	3533	104	9.6	135	24167	32,300	45,838
Mich.	4324	4645	103	13.4	420	33519	47,000	64,965
Minn.	9414	4632	105	10.5	700	53758	75,400	104,191
Miss.	4002	4231	102	10.4	1305	9736	13,650	18,870
Mo.	3569	2822	84	9.5	1435	3069	4,300	5,948
Mont.	4832	4115	94	10.8	1180	15362	21,550	29,774
Nebr.	718	3731	106	9.7	2450	932	1,300	1,806
Nevada	1527	4128	105	9.7	1450	3325	4,650	6,443
N.H.	570	4860	112	17.6	2900	1607	2,250	3,115
N.J.	809	4007	106	13.1	80	53375	74,850	103,448
	7728	4955	101	13.8	245	208220	292,000	403,560



TABLE I, cont.

State of Origin:	Projected Population (000's)	Per Capital Income-1975 (1968 \$)	Educational Index	Propensity Travel (% mobility)	Distance from Boston (miles)	Projected Pleasure Visitor Attendance in 1975		
						Low	Medium	High
R. Mexico	1068	3382	105	10.6	2195	511	710	991
R. Y.	18976	5157	107	12.2	220	442,195	620,100	857,038
R. C.	4084	3524	88	10.7	705	15435	21,650	29,916
N. Dak	616	3520	87	8.5	1825	895	1,250	1,735
Ohio	11253	4395	106	11.0	635	68664	95,300	133,080
Okla.	2664	3611	100	10.7	1685	4640	6,500	8,992
Oregon	2244	4162	110	12.6	3035	2777	3,300	5,381
Pa.	12114	4313	101	10.1	425	96465	135,280	186,964
Ri.	1009	4356	102	10.6	60	70235	98,500	136,125
S. C.	2735	3296	86	9.7	910	7124	10,000	13,807
S. Dakota	673	3572	99	8.5	1740	1005	1,400	1,947
Tenn.	4084	3382	87	11.1	1165	9626	13,500	18,657
Texas	12064	3938	103	11.6	1920	26030	36,500	50,449
Utah	1147	3529	109	11.5	2405	1607	2,250	3,115
Vt.	480	3891	103	10.5	185	9057	12,750	17,631
Va.	4987	3972	97	12.1	550	32204	45,150	62,416
Wash.	3729	4567	112	11.2	3040	4128	5,800	8,001
W. Va.	1758	3184	84	7.7	805	4877	6,850	9,453
Wis.	4644	4132	101	10.6	1065	11380	15,950	22,056
Wyo.	344	3835	103	9.7	1945	439	900	1,239
Canadian Provinces								
Alberta	1688	2424			2615	822	1,150	1,593
Br. Col.	2206	2635			3265	1315	1,850	2,549
Manitoba	1098	2262			1775	822	1,150	1,593
N. Brunswick	703	1694			480	4073	5,700	7,895
Newfoundland	567	1455			800	603	850	1,168
Nova Scotia	858	1829			690	3672	5,116	7,116
Ontario	8104	2679			565	55768	78,200	108,036
P. E.I.	123	1565			620	420	600	814
Quebec	6651	2114			325	44497	62,400	86,242
Saskatch	1085	2230			2275	420	600	814
Foreign Visitors (other than Canada)						105,544	148,000	204,559
Total: All "Out of State" and Foreign Pleasure Visitors:								
						1,826,486	2,561,590	3,540,378
Massachusetts Residents								
Visitor Attendance:	5935	4617	109	11.1	20	2,210,345	3,090,600	4,800,274
Grand Total: All Pleasure Visitors:						4,036,831	5,652,190	8,345,652



Sources for Table I

- Col. 1. Regional Demographic Projections: 1960-85, National Planning Association, Report No. 72-R-1, Oct. 1972, Table I.
- Col. 2. State Economic and Demographic Projections to 1975 and 1980, National Planning Association, Report No. 70-R-1, April 1970.
- Col. 3. Social and Economic Characteristics of the Population, U.S. Bureau of Census, 1970 U.S. Census, Vol II.  
The educational Index was developed by setting the median level of education of the total U.S. pop. as reported in the 1970, equal to 100 and comparing each of the states median level of education to this nationwide average.
- Col. 4. Op. Cit.,  
The propensity to travel represents that portion of the population, which according to the 1970 census moved into the state in the last five years. It was evident, from the various literature, that the people who were mobile - (had moved to their state recently) had a much higher propensity to travel to expositions and other historical or national attractions. The national average was used as a base figure for each State's % which went above or below the national average a point was added or subtracted (respectively) from the weighted measure.
- Col. 5. Attendance, Visitor Spending and Economic Impact of the U.S. Bicentennial World Expo, Arthur D. Little Assoc., Sept. 1969.
- Col. 6,7,8. See Text for explanation.



TABLE II

PROJECTED VISITOR ATTENDANCE TO BOSTON  
DURING BICENTENNIAL PERIOD  
(in Millions)

	1975			1976			1977		
	Low	Med.	High	Low	Med.	High	Low	Med.	High
<u>Out-of-State</u>									
(1)									
<u>Total Pleasure Visitors</u>	1.8	2.6	3.5	2.4	3.7	4.8	1.8	2.1	3.2
- Overnight (2)	1.3	1.8	2.5	1.7	2.6	3.4	1.4	1.5	2.2
- Day	.5	.8	1.0	.7	1.1	1.4	.4	.6	1.0
<u>Total Business/Personal Visitors (3)</u>	.8	.8	.8	1.0	1.0	1.0	1.0	1.0	1.0
- Overnight (4)	.65	.65	.65	.8	.8	.8	.8	.8	.8
- Day	.15	.15	.15	.2	.2	.2	.2	.2	.2
<u>Total All Out-of-State</u>	2.6	3.4	4.3	3.4	4.7	5.8	2.8	3.1	4.2
- Overnight	1.95	2.45	3.15	2.5	3.4	4.2	2.2	2.3	3.0
- Day	.65	.95	1.15	.9	1.3	1.6	.6	.8	1.2
<u>Massachusetts Residents</u>									
(5)									
<u>Total Pleasure Visitors</u>	2.2	3.0	4.8	3.1	4.7	6.1	2.1	2.4	3.3
- Overnight (6)	.1	.1	.2	.1	.2	.3	.1	.1	.2
- Day	2.1	2.9	4.6	2.9	4.5	5.8	2.0	2.3	3.1
<u>All Visitors</u>									
<u>Total Attendance</u>	4.8	6.4	9.1	6.4	9.4	11.9	4.9	5.5	7.5
- Overnight	2.05	2.55	3.35	2.6	3.6	4.5	2.3	2.4	3.2
- Day	2.75	3.85	5.75	3.8	5.8	7.4	2.6	3.1	4.3



Sources and Methodology for Table II

- (1) See text for explanation. Total Pleasure Visitors - out-of-state includes all foreign and Canadian visitors.
- (2) Overnight Visitor volume for out-of-state pleasure visitor was computed at approximately 70% of total out-of-state pleasure visitors. Sources used to derive the 70% figure are: An Evaluation of Tourism and Prologue '75 in Boston, Kasterlak Assoc., June 1972, Table 13; The Newsweek Travel and Vacation Study-1970, Sindlinger & Co., Inc., Tables 3,4, and 21; and Travel Trends in the U.S. and Canada, Business Research Division, University of Colorado and Travel Research Assoc., 1971, Tables 10,29, and 34.
- (3) Kasterlak Report, op. cit., Table 19.
- (4) Business and Personal Visitors staying overnight was computed at approximately 81% of the total from Kasterlak Report and Newsweek Travel Study.
- (5) Mass. Resident Pleasure Visitor volume was derived using participation factors ranging from 20% to 55% and an average visits per participant of approximately
- (6) Mass. Resident-staying overnight was assumed to represent approximately 6% of the total number of visitors, based on information in Travel Trends, op. cit., Table 28; and Newsweek Travel and Vacation Study, op. cit., Tables 3 and 4; and Arthur D. Little Report, op. cit., Table B-6.



TABLE III

## DISTRIBUTION OF VISITOR VOLUMES BY MONTH, MEDIUM PROJECTION

Month/Season	Out-of-State Visitors				Mass. Residents			All Visitors	
	% of Pleasure Visitors/Mo.	# of Pleasure Visitors/Mo. (000's)	% of Bus./Pers. Visitors/Mo.	# of Bus./Pers. Visitors/Mo. (000's)	% of Mass Visitors/ Mo.	# of Mass/ Visitors/ Sea. (000's)	% of all Visitors/Mo.	Total # of All Visitors/Mo. (000's)	Avg. Flow of Visitors/Day
<b>1975-Medium Visitor Volume</b>									
January	2	52	3	24	4	120	3.1	196	6,500
February	3	78	4	32	5	150	4.1	260	8,700
March	3	78	4	32	5	180	4.5	290	3,700
April	7	182	5	40	8	240	7.2	462	15,400
May	8	208	6	48	10	300	8.7	556	18,500
June	11	286	8	64	11	330	10.6	680	22,700
July	14	364	9	72	10	300	11.5	736	24,500
August	16	416	10	80	10	300	12.4	796	26,500
September	12	312	13	104	12	360	12.7	776	25,900
October	11	286	17	136	12	360	12.2	782	26,900
November	8	208	13	104	8	240	8.6	552	18,400
December	5	130	8	64	5	150	5.4	344	11,500
Totals	100	2,600	100	800	100%	3,000	100.0	6,400	17,800- (Avg. Annual 360 days)
<b>1976-Medium Visitor Volume</b>									
January	2	74	3	30	4	188	3.1	292	9,700
February	3	111	4	40	5	235	4.1	286	12,900
March	3	111	4	40	5	235	4.1	386	12,900
April	6	222	5	50	8	376	6.9	648	21,600
May	7	259	6	60	10	470	8.4	789	26,300
June	12	444	8	80	12	564	11.6	1,088	36,300
July	15	555	9	90	9	423	11.4	1,068	35,600
August	17	629	10	100	9	423	12.3	1,152	38,400
September	13	481	13	130	12	564	12.5	1,175	39,100
October	10	370	17	170	13	611	12.2	1,151	38,400
November	7	259	13	130	8	376	8.1	785	25,500
December	5	185	8	80	5	235	5.3	500	16,700
Totals	100	3,700	100	1,000	100%	4,700	100.0	9,400	26,100- (Avg. Annual)



Table III-A  
Distribution of Visitor volumes by month During Bicentennial - High Projections

1975 High Visitor Volume		% Pleasure		% of Bus./		# of Bus./		% of Mass.		# of Mass.		% of All		Total of		Avg. Flow	
Month/Season	Visitors /No. (000's)	Visitors /No.	Pers. Visitors /Mo. (000's)	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Visitors/ Mo.	Visitors/ Mo. (000's)	Visitors/ Mo.	Visitors/ Mo. (000's)	Visitors	Visitors	All Visitors /No. (000's)	All Visitors	of Visitors/ Day	Day
January	2	70	3	3	24	4	4	4	192	3.1	286	3.1	286	286	9533	9533	
February	3	105	4	4	32	5	5	5	240	4.1	377	4.1	377	377	12567	12567	
March	3	105	4	4	32	5	5	5	240	4.1	377	4.1	377	377	12567	12567	
April	7	245	5	5	40	8	8	8	384	7.3	669	7.3	669	669	22300	22300	
May	8	280	6	6	43	10	10	10	480	8.9	808	8.9	808	808	26833	26833	
June	11	385	8	8	64	11	11	11	538	10.7	977	10.7	977	977	32567	32567	
July	14	490	9	9	72	10	10	10	430	11.5	1042	11.5	1042	1042	34733	34733	
August	16	560	10	10	80	10	10	10	480	12.3	1120	12.3	1120	1120	37333	37333	
September	12	420	13	13	104	12	12	12	570	12.1	1100	12.1	1100	1100	36661	36661	
October	11	385	17	17	135	12	12	12	576	12.0	1097	12.0	1097	1097	30567	30567	
November	8	280	13	13	104	8	8	8	384	8.4	768	8.4	768	768	25600	25600	
December	5	175	8	8	64	5	5	5	240	5.3	479	5.3	479	479	15967	15967	
TOTAL	100%	3500	100%	100%	800	100%	100%	100%	4800	100.0	9100	100.0	9100	9100	25278	25278	(Avg. Annual)
1976 High Visitor Volume																	
Month/Season	Visitors /No. (000's)	Visitors /No.	Pers. Visitors /Mo. (000's)	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Pers. Visitors /Mo.	Visitors/ Mo.	Visitors/ Mo. (000's)	Visitors	Visitors						
January	2	96	3	3	30	4	4	4	244	3.1	370	3.1	370	370	12333	12333	
February	3	144	4	4	40	5	5	5	305	4.1	489	4.1	489	489	10300	10300	
March	3	144	4	4	40	5	5	5	305	4.1	489	4.1	489	489	10300	10300	
April	6	288	5	5	50	8	8	8	488	7.0	826	7.0	826	826	33533	33533	
May	7	336	6	6	60	10	10	10	610	8.4	1006	8.4	1006	1006	33533	33533	
June	12	576	8	8	80	12	12	12	732	11.7	1385	11.7	1385	1385	46267	46267	
July	15	720	9	9	90	9	9	9	549	11.4	1359	11.4	1359	1359	45300	45300	
August	17	816	10	10	100	9	9	9	549	12.5	1485	12.5	1485	1485	48833	48833	
September	13	624	13	13	130	12	12	12	732	12.5	1488	12.5	1488	1488	49533	49533	
October	10	480	17	17	170	13	13	13	793	12.1	1443	12.1	1443	1443	48100	48100	
November	7	336	13	13	130	8	8	8	488	8.0	954	8.0	954	954	31800	31800	
December	5	240	8	8	80	5	5	5	305	5.3	625	5.3	625	625	20833	20833	
TOTAL	100%	4800	100%	100%	1000	100%	100%	100%	6100	100.0	11900	100.0	11900	11900	33056	33056	(Avg. Annual)



Sources (and method): (Tables III & III A)

1. Distribution of visitor volume for Out-of-State Pleasure Visitors derived from tables in Kastarlak Report, op. cit., Table 21 and Report by Cities Inc., Boston 200, Table I, and "Inventory and Analysis on Recreation and Tourism in Eastern Mass", Northeastern Univ., Mass Dept of Commerce & Development, 1967, .
2. Distribution of Business/Personal Visitor volume obtained from Kastarlak Report, Table 21.
3. Distribution of Mass. Residents Visitor volume estimated using information in Kastarlak Report and Northeastern Study. We assumed that Mass. residents would take the option of not coming during the summer peak periods; and, that Boston 200 would provide special programs in spring and fall seasons to attract Mass. visitors during these seasons.
4. Average daily attendance was computed on basis that visitor volume would be evenly distributed over 30-day period. Again, we have assumed that Boston 200 will make a deliberate attempt to evenly distribute visitor volume throughout the month and provide special programs on weekends, etc. to attract visitors into the City on non-working days.
5. Table III-A follows the same procedure as Table III, except, we distribute the "high estimates" of visitor volume for 1975 and 1976.



Table III - B

## 1970 Actual Number of Visitors

	Pleasure Factor <sup>1</sup>	Distribution by Month Business			Factor <sup>3</sup>	Mass. x1.5m	Total
		x688,500	Factor <sup>2</sup>	x715,000			
January	3	20,640	3	21,450	3	45,000	87,100
February	4	27,545	4	28,600	4	60,000	116,140
March	5	34,400	4	28,600	5	75,000	138,000
April	6	41,310	5	35,750	6	90,000	167,060
May	7	48,160	6	42,900	7	105,000	196,060
June	10	68,850	8	57,200	10	150,000	276,050
July	14	96,320	9	64,350	14	210,000	370,670
August	16	110,080	10	71,500	16	240,000	421,500
September	12	82,560	13	92,950	12	180,000	355,450
October	10	68,850	17	121,550	10	150,000	340,400
November	8	55,040	13	92,950	8	120,000	267,990
December	5	34,400	8	57,200	5	75,000	166,600

<sup>1</sup>From Kasterlak, Table II (based on room receipts)

<sup>2</sup>From Tables III and V (takes into account **Northeastern** study)

<sup>3</sup>For 1970, we assumed that distribution of Massachusetts residents to be the same as out-of-state pleasure visitors.



Table III - C

## 1975 Normal Medium Visitor Projections

## Distribution by Month

	Pleasure Factor <sup>1</sup>	x733,000	Factor <sup>2</sup>	Business x780,000	Factor <sup>3</sup>	Mass. x1,650,000	Total 3,203,000
January	3	23,190	3	23,400	3	49,500	96,090
February	4	30,920	4	31,200	4	66,000	128,120
March	5	38,650	4	31,200	5	82,500	152,350
April	6	46,380	5	39,000	6	99,000	184,380
May	7	54,110	6	46,800	7	115,500	216,410
June	10	77,300	8	62,400	10	165,000	304,700
July	14	108,220	9	70,200	14	231,000	409,420
August	16	123,680	10	78,000	16	264,000	465,680
September	12	92,760	13	101,400	12	198,000	392,160
October	10	77,300	17	132,600	10	165,000	374,900
November	8	61,840	13	101,450	8	132,000	295,290
December	5	38,650	8	62,400	5	82,500	183,550

<sup>1</sup>From Kasterlak, Table II<sup>2</sup>From Tables III and V<sup>3</sup>For "1975 Normal" we assumed that distribution of Massachusetts residents would be similar to out-of-state pleasure visitors.



TABLE IV

ESTIMATING "VISITING UNITS" AND COMMERCIAL ACCOMMODATION  
NECESSARY TO HANDLE MEDIUM VOLUME OF VISITORS IN 1976Visitor Volume 1976:

Total Visitor Attendance 1976 (Medium Volume)	<sup>1</sup> 9,400,000
- Total "All Pleasure Visitors" <sup>2</sup>	8,400,000
- Total Business/Personal Visitors <sup>3</sup>	1,000,000

Visiting Units:

Total Visiting Units <sup>4</sup>	3,425,000
- No. of Pleasure Visiting Units (@ 3.2 visitors/unit)	2,625,000
- No. of Business/Personal Visiting Units (@ 1.25 visitors/unit)	800,000

Overnight Visiting Units:

Total No. of All Overnight Visiting Units <sup>5</sup>	1,515,000
- No. of Overnight Pleasure Visiting Units	875,000
- No. of Overnight Business/Personal Visiting Units	640,000



Commercial Accommodations for Overnight Visiting Units:Overnight Pleasure Visiting Units:

Total No. of Pleasure Visiting Units Staying in Commercial Lodgings (@ 62%) <sup>6</sup>	542,500
- No. Pleasure Units in Hotels/Motels (@ 44%)	385,000
- No. Pleasure Units in Camps, Boarding Houses, etc. (@ 18%)	157,500

Overnight Business and Personal Visiting Units:

Total No. of Business/Personal Visiting Units Staying in Commercial Lodging (@ 70%) <sup>7</sup>	450,200
- No. Overnight Business/Personal Visitors in Hotels/Motels (@ 63%)	405,000
- No. Overnight Business/Personal Visitors in Camps, Boarding Houses, etc. (@ 7%)	45,200

All Overnight Visiting Units:

Total All Overnight Visiting Units Staying in Commercial Lodgings	992,700
- All Overnight Visiting Units in Hotels/Motels	790,000
- All Overnight Visiting Units in Camps, Boarding Houses, etc.	202,700



TABLE IV, cont.

<u>Estimating Visitor Nights in Commercial Lodgings:</u>	
Average Length of Stay per Overnight Visiting Unit	( <u>\$</u> <u>2 nights</u> )
Total No. of Visitor Nights for All Overnight Visiting Units in Commercial Lodgings - (992,700 x 2)	<u>1,985,540</u>
Average No. of Commercial Lodging Units Needed/Day in 1976 (365 days)	5,440



Table IV-A

ESTIMATING VISITING UNITS AND NECESSARY COMMERCIAL ACCOMMODATIONS FOR  
1976 USING DIFFERENT VISITORS/UNIT RATIOS (q)

<u>Medium Visitor Volume in 1976</u>	<u>9,400,000</u>
- Pleasure Visitors	8,400,000
- Business/Personal Visitors	1,000,000
<u>Visiting Units (Total)</u>	<u>4,160,000</u>
- Pleasure Visiting Units (@ 2.5 Visitors/Unit)	3,360,000
- Business/Personal Visiting Units (@ 1.25 Visitors/Unit)	800,000
<u>Overnight Visiting Units</u>	
<u>Total Overnight Visiting Units</u>	<u>1,760,000</u>
- No. Overnight & Pleasure Visiting Units	1,120,000
- No. Overnight Business/Personal Visiting Units	640,000
<u>Commercial Accommodations:</u>	
<u>Overnight Pleasure Visiting Units</u>	
<u>Total No. Pleasure Visiting Units in Commercial Lodging (@ 62%)</u>	<u>694,400</u>
- No. in Hotels/Motels (@ 44%)	492,800
- No. in Camps, Boarding Houses, etc. (@ 18%)	201,600



TABLE IV - A, cont.

<u>Overnight Business/Personal Visiting Units</u>	
Total No. Business/Personal Visiting Units	450,200
in Commercial Lodgings (@ 70%)	405,000
- No. in Hotels/Motels (@ 63%)	
- No. in Camps, Boarding Houses, etc.	45,200
(@ 7%)	
<u>All Overnight Visiting Units</u>	
Total All Overnight Visiting Units in Commercial Lodging	1,144,600
- No. in Hotels/Motels	897,800
- No. in Camps, Boarding Houses, etc.	246,800
Average Length of Stay per Overnight Visiting Unit	<u>2 nights</u>
Total No. of Visitors Nights for All Overnight Visiting Units Staying in Commercial Lodgings (1,444,600 x 2)	2,889,200
Average No. of Commercial Lodging Units Need/Day in 1976 (365 days)	<u>6,375</u>



Sources and Methods for Table IV and IV-A

1. See Table II, 1976 Medium Volume of Visitors
2. All Pleasure Visitors is summation of out-of-state pleasure visitors and Massachusetts residents pleasure visitors.
3. Table II
4. "Visiting Units" is an approximation of the number of individual groups or parties that are represented in the 9 7 million visitor volume figure. The number of visiting units was derived by assuming that the average size party (unit) of pleasure visitors would be 3.2 visitors, and the average size party for business/ personal visitors would be 1.25 visitors. The size of the "visiting units" were estimated from the Kastarlak Report, Arthur D. Little Study on Expo and Travel Trends in U.S. and Canada, op. cit., Table 10.
5. Overnight visiting units was derived in same manner as total visiting units - applying the 3 and 1.25 ratios to overnight pleasure visitors and overnight business/personal from Table II. Overnight pleasure visiting units include both out-of-state and Massachusetts residents staying overnight
6. It was estimated, that of all overnight visiting units, 62% would stay in commercial lodgings; with 44% in camps, boarding houses, etc. Sources for these estimates were Kastarlak Report, Tables 22 & as; Travel Trends in U.S. and Canada, Table 14; and "Inventory and Analysis of Recreation and Tourism and Vacationing in Eastern Massachusetts", Northeastern University, Management Institute, Mass. Department of Commerce and Development, 1967, Tables 5-15
7. Same sources as cited in note 6.
8. Average length of stay per visiting unit was derived from Kastarlak Report, Table 22; Travel Trends in U.S. and Canada, Table 10; and Northeastern University Study, Tables 5-14.
9. Table IV-A was developed in the same manner as Table IV except that we used a different coefficient for the number of pleasure visitors per pleasure visiting unit. In this table we used a factor of 2.5 visitors per pleasure visiting unit instead of the 3.2 factor used in Table IV. The factor for business and personal visitors remained the same for both tables at 1.25 visitors/personal and business visiting unit.



Table IV-B

Estimation of commercial lodging units needed to accomodate visitors in 100 day peak period in 1976.

I. Total number of "all visitors" in 100 day period ----- 4,727,000  
Average number of visitors per day (100 days) ----- 47,270

Number of Visiting Units in 100 day period:

Pleasure Visitors at 3.2/unit  $4,517,000 \div 3.2 = 1,411,562$   
Business Visitors at 1.25/unit  $313,000 \div 1.25 = 250,400$   
1,661,962

Pleasure Visitors at 2.5/unit  $4,517,000 \div 2.5 = 1,806,800$   
Business Visitors at 1.25/unit  $313,000 \div 1.25 = 250,400$   
2,057,200

II. Total number of "all overnight" visitors in 100 days--2,066,513  
Average number of overnight visitors per day 20,665

Number of "all overnight" visiting Units in 100 day period:

Pleasure visitors at 3.2/unit  $1,816,113 \div 3.2 = 567,535$   
Business visitors at 1.25/unit  $250,400 \div 1.25 = 200,320$   
767,855

Pleasure visitors at 2.5/unit  $1,816,113 \div 2.5 = 726,445$   
Business visitors at 1.25/unit  $250,400 \div 1.25 = 200,320$   
926,765



Table V

## Impact of Bicentennial on Visitor Volume

Out-of-State	Estimated Visit Vol. 1970 <sup>1</sup>	Est. Visit. Vol. with normal growth (1975) <sup>2</sup>	Proj. Med. Visit Vol. with Bicentennial (1975) <sup>3</sup>	Proj. Visitor Vol. post Bicentennial (1978) <sup>4</sup>
<u>Total Pleasure Visitors</u>	<u>688,000</u>	<u>773,000</u>	<u>2,600,000</u>	<u>1,200,000</u>
- overnight	516,000	579,750	1,800,000	948,000
- day	172,000	193,250	800,000	252,000
<u>Total Business/Pers. Vis.</u>	<u>715,000</u>	<u>780,000</u>	<u>800,000</u>	<u>910,000</u>
- overnight	586,300	639,600	650,000	746,200
- day	128,700	141,400	150,000	163,800
<u>Mass Residents</u>				
<u>Total Pleasure Visitors</u>	<u>1,500,000</u>	<u>1,660,350</u>	<u>3,000,000</u>	<u>1,980,000</u>
- overnight	60,000	67,000	100,000	80,000
- day	1,440,000	1,593,350	2,900,000	1,900,000
<u>Total All Visitors</u>	<u>2,903,000</u>	<u>3,213,350</u>	<u>6,400,000</u>	<u>4,090,000</u>
- overnight	1,162,300	1,286,350	2,550,000	1,774,200
- day	1,740,700	1,928,000	3,850,000	2,315,800

Source:

<sup>1</sup>Kastarlak Report, op. cit., Table 19<sup>2</sup>Ibid, Table 20.<sup>3</sup>See Table I

<sup>4</sup>Visitor volume for Post-Bicentennial period was derived by extending the normal growth trend to 1978 and adding a Bicentennial impact factor of approximately 20%. The impact factor was estimated based on a preliminary report of the Canadian Travel Research Conference in Ottawa, Ontario, which analyzed the experience of Montreal Exposition; Proceeding of Canadian Travel Research Conference, Canadian Tourist Assoc. 1970. It should be noted that the impact data was not very well documented and is used here only as a rough approximation in the absence of better data. Efforts should be made, at a later date, to better document the Post-Bicentennial impact.



PART III

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